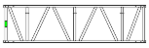
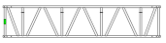
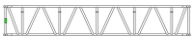
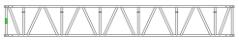
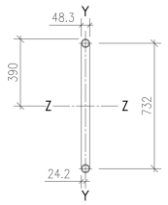
# LV78 Technical Data Sheet 1 of 2

## 78cm Aluminium Scaffolding Beams

| Part # | Detail | Description | Weight |
|---|---|---|---|
| LV78_0500 |  | 0.5m 78cm Beam | 3.2 Kg |
| LV78_1000 |  | 1.0m 78cm Beam | 6.5 Kg |
| LV78_2000 |  | 2.0m 78cm Beam | 13.0 Kg |
| LV78_3000 |  | 3.0m 78cm Beam | 17.5 Kg |

| Part # | Detail | Description | Weight |
|---|---|---|---|
| LV78_4000 |  | 4.0m 78cm Beam | 23.0 Kg |
| LV78_5000 |  | 5.0m 78cm Beam | 29.0 Kg |
| LV78_6000 |  | 6.0m 78cm Beam | 34.0 Kg |
| LVBS006 |  | Spigot Piece | 1.2 Kg |
| LVQR12_60 |  | Spigot Pins | - |

### Cross Section Properties



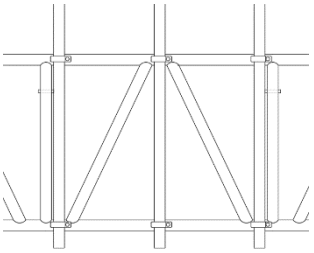

A: 12.4 cm²

$I_{zz}$: 14502 cm⁴

$I_{yy}$: 30 cm⁴

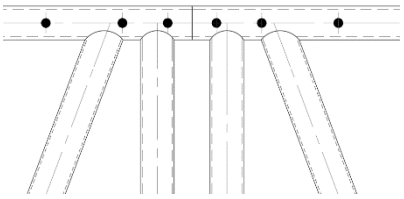
NB – stated parameters are based on chords only to allow for equivalent member analysis if required. For weights refer to table.

### Puncheon Locations



Puncheons are only to be fitted at node locations as shown in the above diagram.

### Splice Detail



All splices are to be made with the LCP Ltd spigot and the supplied three bolts are to be fitted each side of the joint. This ensures the strength of the beam is unaffected by the splice

| Ultimate Moment Capacity (kN.m) | | Ultimate Shear Capacity (kN) |
|---|---|---|
| Beam : Compression Chord Braced at 0.5m centres | 84.4 kN.m | All Cases : 35.6 kN |
| Beam : Compression Chord Braced at 1.0m centres | 58.5 kN.m | |
| Beam : Compression Chord Braced at 2.0m centres | 21.1 kN.m | |
| Note – Spliced beams with three bolts each side of the spigot piece will achieve full moment capacity in all cases | | |
| The Design Engineer should choose one of the applicable Safety Factors – 1.3, 1.5 or 1.65. | | |

| Compression Chord Lacing at 0.5m Centres | | Span (m) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 4.0 | 6.0 | 8.0 | 10.0 | 12.0 | 14.0 | 16.0 |
| Uniformly Distributed Load | (kN/m ULS) | 18.2 | 12.0 | 8.6 | 5.9 | 4.2 | 3.1 | 2.0 |
| | SLS Deflection (mm) | 6 | 15 | 31 | 48 | 70 | 93 | 107 |
| Mid Span Point Load | (kN ULS) | 70.3 | 56.8 | 42.2 | 33.4 | 27.4 | 23.3 | 19.7 |
| | SLS Deflection (mm) | 10 | 20 | 32 | 46 | 64 | 85 | 107 |
| Two Point Loads at Third Points | (kN ULS, each) | 35.2 | 35.2 | 34.0 | 23.9 | 50.2 | 15.5 | 11.4 |
| | SLS Deflection (mm) | 9 | 20 | 39 | 56 | 79 | 93 | 107 |
| Three Point Loads at Quarter Points | (kN ULS, each) | 23.6 | 23.5 | 21.2 | 11.1 | 13.7 | 11.0 | 8.5 |
| | SLS Deflection (mm) | 8 | 19 | 36 | 36 | 74 | 93 | 107 |
| Point Load Every Node (Equivalent UDL) | (kN/m ULS) | 18.2 | 12.0 | 8.9 | 6.8 | 4.7 | 3.1 | 2.0 |
| | SLS Deflection (mm) | 6 | 15 | 32 | 56 | 78 | 93 | 107 |

### NOTES

1. Loads stated are ultimate limit state based on the provision of simple supports at each bearing. Refer to Sheet 2 of 2 for load locations.
2. Resistances stated are design ultimate resistances ($X_{d,r}$)
3. To convert to 'safe working' loading/resistance divide the stated load/resistance by 1.3, 1.5 or 1.65.
4. Loads should be applied at node locations only, with the exception of the 'Uniformly Distributed Load' which is calculated allowing for local member bending effects.
5. 'Point Load Every Node' is the equivalent UDL applied as point loads at each node (ie each PL = stated kN/m x 0.5m chord node c/c). No local member bending effects are considered.
6. Supporting calculations are in accordance with BS EN 1999-1-:2007+A2:2013.
7. Spliced beams must be connected using all three bolt holes in each side of the spigot piece using the supplied bolts/pins.
8. Lacing tubes are to be connected with Class A Right Angle couplers. Bracing is to be connected with Class A Swivel couplers.
9. Stated deflections are indicative. A specific design should be completed in deflection critical cases.

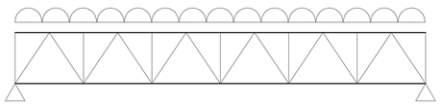
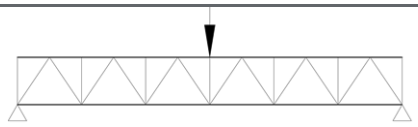
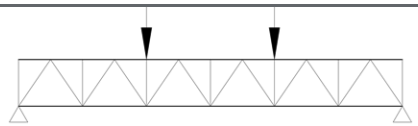
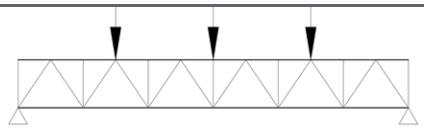
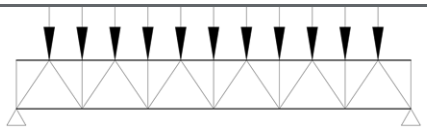
The information provided is based on prevailing legislation and/or testing. LCP Ltd reserves the right to make technical changes, users should ensure that only current revisions of this Technical Data Sheet are used. The published data refers to original genuine LCP Ltd materials only. © LCP Limited. No unauthorised use, copy or disclosure is to be made.

# LV78 Technical Data Sheet 2 of 2

## 78cm Aluminium Scaffolding Beams

| Compression Chord Lacing at 1.0m Centres | | Span (m) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 4.0 | 6.0 | 8.0 | 10.0 | 12.0 | 14.0 | 16.0 |
| Uniformly Distributed Load | (kN/m ULS) | 18.2 | 10.4 | 6.4 | 4.3 | 3.0 | 2.2 | 1.7 |
| | SLS Deflection (mm) | 6 | 13 | 23 | 35 | 51 | 69 | 90 |
| Mid Span Point Load | (kN ULS) | 70.3 | 47.5 | 33.2 | 25.6 | 20.6 | 17.4 | 15.0 |
| | SLS Deflection (mm) | 10 | 17 | 25 | 35 | 48 | 64 | 81 |
| Two Point Loads at Third Points | (kN ULS, each) | 35.2 | 30.0 | 23.7 | 16.7 | 14.1 | 12.4 | 10.1 |
| | SLS Deflection (mm) | 8 | 17 | 27 | 39 | 55 | 75 | 94 |
| Three Point Loads at Quarter Points | (kN ULS, each) | 23.6 | 21.9 | 15.7 | 8.5 | 9.9 | 8.4 | 7.3 |
| | SLS Deflection (mm) | 8 | 17 | 27 | 27 | 54 | 72 | 92 |
| Point Load Every Node (Equivalent UDL) | (kN/m ULS) | 18.2 | 12.0 | 7.6 | 4.8 | 3.3 | 2.4 | 1.8 |
| | SLS Deflection (mm) | 6 | 15 | 27 | 39 | 54 | 73 | 93 |

| Compression Chord Lacing at 2.0m Centres | | Span (m) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 4.0 | 6.0 | 8.0 | 10.0 | 12.0 | 14.0 | 16.0 |
| Uniformly Distributed Load | (kN/m ULS) | 9.2 | 4.4 | 2.5 | 1.6 | 1.1 | 0.8 | 0.6 |
| | SLS Deflection (mm) | 3 | 6 | 9 | 13 | 19 | 26 | 33 |
| Mid Span Point Load | (kN ULS) | 28.8 | 17.0 | 11.9 | 9.2 | 7.4 | 6.2 | 5.4 |
| | SLS Deflection (mm) | 4 | 6 | 9 | 13 | 17 | 23 | 29 |
| Two Point Loads at Third Points | (kN ULS, each) | 14.5 | 10.7 | 8.5 | 6.0 | 5.1 | 4.4 | 3.6 |
| | SLS Deflection (mm) | 3 | 6 | 10 | 14 | 20 | 27 | 34 |
| Three Point Loads at Quarter Points | (kN ULS, each) | 12.5 | 7.8 | 5.6 | 3.1 | 3.6 | 3.0 | 2.6 |
| | SLS Deflection (mm) | 4 | 6 | 10 | 10 | 19 | 26 | 33 |
| Point Load Every Node (Equivalent UDL) | (kN/m ULS) | 11.8 | 5.0 | 2.7 | 1.7 | 1.2 | 0.9 | 0.6 |
| | SLS Deflection (mm) | 4 | 6 | 10 | 14 | 20 | 26 | 34 |

| Applied Load Locations | |
|---|---|
|  | Uniformly Distributed Load |
|  | Mid Span Point Load |
|  | Two Point Loads at Third Points |
|  | Three Point Loads at Quarter Points |
|  | Point Load Every Node (Equivalent UDL) |

### Maintenance Loading

With an applied unfactored loading of 1 kN/m UDL as a continuous load to the top chord, representing a typical light maintenance loading, the LV78 series beams can achieve the following maximum spans:

| | |
|---|---|
| 0.5m c/c Chord Restraints | 20.0m |
| 1.0m c/c Chord Restraints | 17.0m |
| 2.0m c/c Chord Restraints | 10.0m |

**This sheet is to be read in conjunction with LV78 Technical Data Sheet 1 of 2**

The information provided is based on prevailing legislation and/or testing. LCP Ltd reserves the right to make technical changes, users should ensure that only current revisions of this Technical Data Sheet are used. The published data refers to original genuine LCP Ltd materials only. © LCP Limited. No unauthorised use, copy or disclosure is to be made.